

Name: _____

Chemistry

Math Skills Pretest

Objective: SWBAT reassess math skills and apply those skills to chemistry related problems.

I. Part One: Basic Skills

<p>Addition</p> $\begin{array}{r} 212 \\ + 576 \\ \hline \end{array}$ $\begin{array}{r} 48 \\ + 17 \\ \hline \end{array}$ $\begin{array}{r} 1293 \\ + 123 \\ \hline \end{array}$	<p>Subtraction</p> $\begin{array}{r} 512 \\ - 276 \\ \hline \end{array}$ $\begin{array}{r} 48 \\ - 17 \\ \hline \end{array}$ $\begin{array}{r} 1293 \\ - 123 \\ \hline \end{array}$
<p>Multiplication</p> $12 * 7 =$ $76 * 43 =$ $298 * 14 =$	<p>Division</p> $175 / 5 =$ $212 / 4 =$ $63 / 9 =$
<p>Factoring</p> $2(4+5) =$ $6(4+4) =$ $9(15 - 2) + 7 =$	<p>Algebra</p> $2(4+x) \quad x = 1$ $6(4+x) \quad x = 4$ $9(15 - x) \quad x = 2$
<p>Write the following numbers in <u>scientific notation</u>:</p> <p>654,000</p> <p>0.000000251</p> <p>10034000</p>	<p>Write the following in decimal form:</p> <p>4×10^5</p> <p>3.4×10^{-6}</p> <p>3.00102×10^4</p>
<p>Addition and Subtraction</p> $(3.5 \times 10^4) + (4.1 \times 10^3)$ $(7.2 \times 10^{-6}) - (8.2 \times 10^{-7})$	<p>Multiplication and Division</p> $(3.5 \times 10^{17}) * (2 \times 10^7)$ $(6 \times 10^6) / (4 \times 10^5)$

II. Part 2: Applied Math

a. Rearranging Equations

1. Solve the following equation for m

$$d = \frac{m}{V}$$

2. Solve the following equation for P

$$PV = n r t$$

3. Solve the following equation for n

$$PV = n r t$$

b. Multi Variable Algebra

1. Given the following, use the equation $PV = nrt$ to solve for P

$$V = 20 \text{ ml}$$

$$N = 5 \text{ moles}$$

$$R = .0821 \text{ K mole/ L atm}$$

$$T = 298 \text{ K}$$

$$P = ?$$

c. Unit Conversions

1. Convert 3.2 feet into inches (1 ft = 12 inches)
2. Convert 2.4 kilograms into grams (1 kg = 1000g)
3. Convert 6 years into seconds

d. Graphing

1. Graph the following data

X	Y
3	6
2	4
1	2
-1	-2

